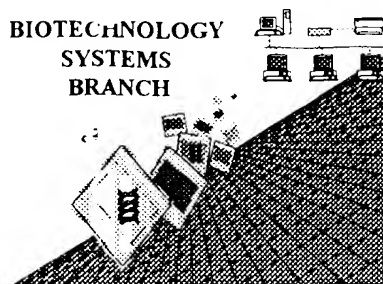


RAW SEQUENCE LISTING **ERROR REPORT**

BIOTECHNOLOGY
SYSTEMS
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/763,994

Source: PG 09

Date Processed by STIC: 7/11/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
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FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

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TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

PCT09

RAW SEQUENCE LISTING

DATE: 07/11/2001

PATENT APPLICATION: US/09/763,994

TIME: 11:05:29

Input Set : A:\X-12239SeqList.app

Output Set : N:\CRF3\07112001\I763994.raw

Does NOT copy
directly to disk. needed.

p.6

2 <110> APPLICANT: Edmonds, Brian T.

5 <120> TITLE OF INVENTION: HUMAN LATENT TRANSFORMING GROWTH FACTOR-BETA BINDING
6 PROTEIN 2

9 <130> FILE REFERENCE: X-12239

C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/763,994

C--> 11 <141> CURRENT FILING DATE: 2001-06-08

13 <160> NUMBER OF SEQ ID NOS: 6

15 <170> SOFTWARE: PatentIn Ver. 2.0

17 <210> SEQ ID NO: 1

18 <211> LENGTH: 3624

19 <212> TYPE: DNA

20 <213> ORGANISM: Homo sapiens

22 <400> SEQUENCE: 1

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24 gtgatctgca aggggacgtg tctcaagggc cagtgtcggg agattgtca gcagggtctc 120
25 aacatgaagc tcatggaga gaagggcac agcacagaca cgtcacggg ctccgggttc 180
26 cgggtgggtg ggtgacatct cactggatg aatggcgggc agtgccttc gggaaacacg 240
27 tgcctgtgtc ccaggacatt cactgggagc ttctggcagg tgcgcgagg aggagcgggt 300
28 gggggtacgc ggggttgg ccgggctgt agcaggacag gggcctgtc cacaggggcg 360
29 ctggcgcgcc tggctcggga gggcgactct ggggcacgca agcacgcct ctacgcgtc 420
30 caggtgatcg ctacacatcc tgggcgcggg gaggggctc ctggcagca cgcagccttc 480
31 ctggtgcgcc taggcggg acagatctca gcagaagtc aggcgcgc ccctgtgggtg 540
32 aatgtgcggc tccatccccc ggcggagggc tccgtccagg tgcacgcct tgagagctcg 600
33 aacgcgcaga ggcgagcccc ctccagcac ctgctgcgc acccgaagc ctgcgcaccc 660
34 cgggcgcaca ccagaaagtc cctggggcgc tgtttccagg aactctgac caagcagcgg 720
35 tgtggcagca acacacatcc cggcctccac aagcagggaag actgctggg tagcatcggc 780
36 actgcctggg gcagagacaa gtgcacaaag tgtcccccgc tgcagtacac aggagtgacg 840
37 aagccagggc ctgttacttg ggaagtgggg gctgaactgc ccagggcta caagagctt 900
38 aacagcacc ccctgcagga cttcaacagg tggcaatgc cggggtgtg tgcacatggt 960
39 cactgcctca acacacatg ctctatcgc tgtgtcggc cactgggca tagtttagg 1020
40 cctcccgta caagctctat tccagacaaa ccggaggaga agagctgtg tttccgctg 1080
41 ctgcacctg agacacgtg ccagcacaca ctgacaccc gctgacccc ccagctctg 1140
42 tgcctgagtg tgggaagg ctggggcg cgtgtcagg gctggcaac agatggcacc 1200
43 cgtgcgttca agagatctg ccagctggg aagggaacac acattctcac ctccacacg 1260
44 acgtcacaca ttccaggaga gactgaactt tccctctccc tgcaccccga cgggcacccc 1320
45 aa-gccccagc agcttcggga gggcctagg caggctccac cactcgagg cacagaggaa 1380
46 aagagaggcg tggcacgga ctcccggtg agtgaggaga ggtcagtga gcagagccac 1440
47 ccaactgaca ccaagactcc tggcgggccc taccgcgagc tcatctccg tccctcgccc 1500
48 ccgacatgca gtcggttctt gcgggacttg cctctctccc gcaggcctg agagatcgt 1560
49 ccaactcagg tccagagac tgatgagtgc cgaatgaac agaactctg tggcctggga 1620
50 agtgcgtgca gggccccccc tgaactctcc tgcactgca acccgggcta ccggtcacat 1680
51 cccacgacac gttactggtt ggaatggaac gagtgcgagg cagagcctg tggcgcgggg 1740
52 aggggcacct gcatgaacac cggcggtccc tacaattgcc actgcaccc cggctacacg 1800
53 ctgcacgtgg gcgcgggggg ggcctcgtgc gtggactga acgaatggc caagcccac 1860
54 ctgtgcggcg accggggctt ctgcacacac ttctcggtc actcaagtg caactgctac 1920
55 cccggctaac ggtcaaacg ctccggcct cctgtatgg aagacatga cgaatgcagg 1980
56 gacccaagct cttgcgcgga tggcaaatgc gagaacaaac ccggagagct caagtgcac 2040

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/763,994

DATE: 07/11/2001

TIME: 11:05:29

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57 gactgtcagc ctggctacgc cagccagggg ggccggggct gtccggagct gaacagagtgc 2150
58 gccagagggca gccctcgtc gctgggtggg tgcgagaacc tcccgggctc cttccgctgc 2160
59 aactgtgccc agggctacgc gcccgggccc gacggccgca gttgcttggg tggggagag 2170
60 tgtgaggtg gggacgtgtg tgacaatggg atctgcagca acagccagc atctttccag 2180
61 tgtcagtgcc tctctggcta ccatctgtcc agggacggga gccactggca ggacattgac 2190
62 gagtgtgact tctctgagc ctgcattggg ggtgactgca tcaatccca tggtccctac 2200
63 aatgtctttt gcccccaggg gcctgggtgg gtggggggga ggaatggca agacatagat 2210
64 gagtgcagcc agpacccagc cctgtgcctt cccatggggg cctgcaagaa ccttcagggc 2220
65 tctatgtgt gtgtctgga tgagggtctt actccacccc aggaacagca cgtttgtgag 2230
66 gaggtggagc agcccacca caagaaggag tctacccgca acttcgatga cacagtgttc 2240
67 tgcagagcg tattggcac caacgtgacc cagcaggagt gctgtgtctc tctgggggccc 2250
68 ggtgtggggc aactgtgca aacttaccac tggcagctct acagctcagc cagattccac 2260
69 agcctctgcc cagacggaaa gggctacacc caggacaaca acatctcaca ctacggcctc 2270
70 ctagccccc gtcacatgca cgaatgcatt tcttccgggt cggagatttg caaggagggc 2280
71 aagtgcgtga acagccccc tggctacgag tctactgca agcagggtct ctactacgac 2290
72 gggaaacctg tggaaatggt ggaagtggac gagtgcctgg acagctcaca ctgcaggaac 2300
73 gtagtgtgtg agaacaagg cgggggttac cgtgtgctt gcaaccccc tgcagagtac 2310
74 agtcocgggc agggccagt cctgagcccg caajagatgg aggtgtccc cggaggggccc 2320
75 gactgtgctt ggagccagcg cggagaggac ggaatgtgag ctggccccc cggccgggctt 2330
76 gccctcaact tgcagatgt ctgtgtccc cagggccggc gctgggggccc ccaatgcgca 2340
77 cgtgcccgcg cggcggggccc ggggtcccat tgcgcgacat cgcagagcga gajcaattcc 2350
78 tctggggaca caagccccc gctgttgggg aagcccccba gagatgagga cagttccagc 2360
79 gaggattccg acgagcttgc ctggctgagt ggcctctgct tgcgcgggccc cggcgggccc 2370
80 ggtgctgagt gtcacgggg cttccagctc gacgctccc ggcgcggctg cgtggatata 2380
81 gacagagtgc gacagctgaa ccagcgggg ctgctgtgca agagcagcgc ctgctgtgaa 2390
82 accagcggtt ccttccgctg cgtctgcaaa gcgggcttgc cgcgcagccc cccgcacggg 2400
83 gactggctc ccagcgggg cgcg                                     3624

```

#10 - SEQ ID NO: 1

#11 - LENGTH: 1201

#12 - TYPE: CDS

#13 - ORGANISM: Homo sapiens

#400 - SEQUENCE: 2

```

81 Arg Gly Ala Gly Gly Gly Gly Ala Leu Ala Arg Glu Arg Phe Lys Val
82 1 5 10 15
84 Val Phe Ala Pro Val Ile Cys Lys Arg Thr Cys Leu Lys Gly Gln Cys
85 20 25 30
87 Arg Asp Ser Cys Gln Gln Gly Ser Asn Met Thr Leu Ile Gly Gln Asn
88 35 40 45
90 Gly His Ser Thr Asp Thr Leu Thr Gly Ser Gly Phe Arg Val Val Val
91 50 55 60
93 Cys Pro Leu Pro Cys Met Asn Gly Gly Gln Cys Ser Ser Arg Asn Gln
94 65 70 75 80
96 Cys Leu Cys Pro Pro Asp Phe Thr Gly Arg Phe Cys Gln Val Pro Ala
97 85 90 95
99 Gly Gly Ala Gly Gly Gly Thr Gly Gly Ser Gly Pro Gly Leu Ser Arg
100 100 105 110
102 Thr Gly Ala Leu Ser Thr Gly Ala Leu Pro Pro Leu Ala Pro Glu Gly
103 115 120 125
105 Asp Ser Val Ala Ser Lys His Ala Ile Tyr Ala Val Gln Val Ile Ala

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/763,994

DATE: 07/11/2001

TIME: 11:05:29

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Output Set: N:\CRF3\07112001\I763994.raw

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116      130      135      140
118 Asp Pro Pro Gly Pro Gly Glu Gly Pro Pro Ala Gln His Ala Ala Phe
119 145      150      155      160
121 Leu Val Pro Leu Gly Pro Gly Gln Ile Ser Ala Glu Val Gln Ala Pro
122      165      170      175
124 Pro Pro Val Val Asn Val Arg Val His His Pro Pro Glu Ala Ser Val
125      180      185      190
127 Gln Val His Arg Ile Glu Ser Ser Asn Ala Glu Ser Ala Ala Pro Ser
128      195      200      205
130 Gln His Leu Leu Pro His Pro Lys Pro Ser His Pro Arg Pro Pro Thr
131      210      215      220
133 Gln Lys Ser Leu Gly Arg Cys Phe Gln Asp Thr Leu Pro Lys Gln Pro
134 225      230      235      240
136 Cys Gly Ser Asn Pro Leu Pro Gly Leu Thr Lys Gln His Asp Cys Cys
137      245      250      255
139 Gly Ser Ile Gly Thr Ala Trp Gly Gln Ser Lys Cys His Lys Cys Pro
140      260      265      270
142 Gln Leu Gln Tyr Thr Gly Val Gln Lys Pro Gly Pro Val Arg Gly Glu
143      275      280      285
145 Val Gly Ala Asp Cys Pro Gln Gly Tyr Lys Arg Leu Asn Ser Thr His
146      290      295      300
148 Cys Gln Asp Ile Asn Glu Cys Ala Met Pro Gly Val Lys Arg His Gly
149 305      310      315      320
151 Asp Cys Leu Asn Asn Pro Gly Ser Tyr Arg Cys Val Lys Pro Pro Gly
152      325      330      335
154 His Ser Leu Gly Pro Ser Arg Thr Gln Cys Ile Ala Asp Lys Pro Glu
155      340      345      350
157 Glu Lys Ser Leu Cys Phe Arg Leu Val Ser Pro Glu His Gln Cys Gln
158      355      360      365
160 His Pro Leu Thr Thr Arg Leu Thr Arg Gln Leu Cys Cys Cys Ser Val
161      370      375      380
163 Gly Lys Ala Trp Gly Ala Arg Cys Gln Arg Cys Pro Thr Asp Gly Thr
164 385      390      395      400
166 Ala Ala Phe Lys Glu Ile Cys Pro Ala Gly Lys Gly Tyr His Ile Leu
167      405      410      415
169 Thr Ser His Gln Thr Leu Thr Ile Gln Gly Glu Ser Asp Phe Ser Leu
170      420      425      430
172 Phe Leu His Pro Asp Gly Pro Pro Lys Pro Gln Gln Leu Pro Glu Ser
173      435      440      445
175 Pro Ser Gln Ala Pro Pro Pro Glu Asp Thr Glu Glu Arg Gly Val
176      450      455      460
178 Thr Thr Asp Ser Pro Val Ser Glu Glu Arg Ser Val Gln Gln Ser His
179 465      470      475      480
181 Pro Thr Ala Thr Thr Thr Pro Ala Arg Pro Tyr Pro Glu Leu Ile Ser
182      485      490      495
184 Arg Pro Ser Pro Pro Thr Met Arg Trp Phe Leu Pro Asp Leu Pro Pro
185      500      505      510
187 Ser Arg Ser Ala Val Glu Ile Ala Pro Thr Gln Val Thr Glu Thr Asp
188      515      520      525

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RAW SEQUENCE LISTING

DATE: 07/11/2001

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Input Set : A:\X-12239SeqList.app

Output Set: N:\CRF3\07112001\I763994.raw

```

190 Glu Cys Arg Leu Asn Gln Asn Ile Cys Gly His Gly Glu Cys Val Pro
191      530      535      540
193 Gly Pro Pro Asp Tyr Ser Cys His Cys Asn Pro Gly Tyr Arg Ser His
194 545      550      555      560
196 Pro Gln His Arg Tyr Cys Val Asp Val Asn Gln Cys Glu Ala Glu Pro
197      565      570      575
199 Cys Gly Pro Gly Arg Gly Ile Cys Met Asn Thr Gly Gly Ser Tyr Asn
200      580      585      590
202 Cys His Cys Asn Arg Gly Tyr Arg Leu His Val Gly Ala Gly Gly Arg
203 595      600      605
205 Ser Cys Val Asp Leu Asn Gln Cys Ala Lys Pro His Leu Cys Gly Asp
206 610      615      620
208 Gly Gly Phe Cys Ile Asn Phe Pro Gly His Tyr Lys Cys Asn Cys Tyr
209 625      630      635      640
211 Pro Gly Tyr Arg Leu Lys Ala Ser Arg Pro Pro Val Cys Glu Asp Ile
212      645      650      655
214 Asp Glu Cys Arg Asp Pro Ser Ser Cys Pro Asp Gly Lys Cys Glu Asn
215 660      665      670
217 Lys Pro Gly Ser Phe Lys Cys Ile Ala Cys Gln Pro Gly Tyr Arg Ser
218 675      680      685
220 Gln Gly Gly Gly Ala Cys Arg Asp Val Asn Glu Cys Ala Glu Gly Ser
221 690      695      700
223 Pro Cys Ser Pro Gly Trp Cys Gln Asn Leu Pro Gly Ser Phe Arg Cys
224 705      710      715      720
226 Thr Cys Ala Gln Gly Tyr Ala Pro Ala Pro Asp Gly Arg Ser Cys Leu
227 725      730      735
229 Asp Val Asp Glu Cys Glu Ala Gly Asp Val Cys Asp Asn Gly Ile Cys
230 740      745      750
232 Ser Asn Thr Pro Gly Ser Phe Gln Cys Gln Cys Leu Ser Gly Tyr His
233 755      760      765
235 Leu Ser Arg Asp Arg Ser His Cys Glu Asp Ile Asp Glu Cys Asp Phe
236 770      775      780
238 Pro Ala Ala Cys Ile Gly Gly Asp Cys Ile Asn Thr Asn Gly Ser Tyr
239 785      790      795      800
241 Arg Cys Leu Cys Pro Gln Gly His Arg Leu Val Gly Gly Arg Lys Cys
242 805      810      815
244 Gln Asp Ile Asp Glu Cys Ser Gln Asp Pro Ser Leu Cys Leu Pro His
245 820      825      830
247 Gly Ala Cys Lys Asn Leu Gln Gly Ser Tyr Val Cys Val Cys Asp Glu
248 835      840      845
250 Gly Phe Thr Pro Thr Gln Asp Gln His Gly Cys Glu Glu Val Gln Gln
251 850      855      860
253 Pro His His Lys Lys Glu Cys Tyr Leu Asn Phe Asp Asp Thr Val Phe
254 865      870      875      880
256 Cys Asp Ser Val Leu Ala Thr Asn Val Thr Gln Gln Glu Cys Cys Cys
257 885      890      895
259 Ser Leu Gly Ala Gly Trp Gly Asp His Cys Glu Ile Tyr Pro Cys Pro
260 900      905      910
262 Val Tyr Ser Ser Ala Glu Phe His Ser Leu Cys Pro Asp Gly Lys Gly

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/763,994

DATE: 07/11/2001

TIME: 11:05:29

Input Set : A:\X-12239SeqList.app

Output Set: N:\CRF3\07112001\I763994.raw

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263          915          920          925
265 Tyr Thr Gln Asp Asn Asn Ile Val Asn Tyr Gly Ile Pro Ala His Arg
266          930          935          940
268 Asp Ile Asp Glu Cys Met Leu Phe Gly Ser Glu Ile Cys Lys Glu Gly
269 945          950          955          960
271 Lys Cys Val Asn Thr Gln Pro Gly Tyr Glu Cys Tyr Cys Lys Gln Gly
272          965          970          975
274 Phe Tyr Tyr Asp Gly Asn Leu Leu Glu Cys Val Asp Val Asp Glu Cys
275          980          985          990
277 Leu Asp Glu Ser Asn Cys Arg Asn Gly Val Cys Glu Asn Thr Arg Gly
278          995          1000          1005
280 Gly Tyr Arg Cys Ala Cys Thr Pro Pro Ala Glu Tyr Ser Pro Ala Glu
281          1010          1015          1020
283 Arg Gln Cys Leu Ser Pro Glu Glu Met Glu Arg Ala Pro Glu Arg Arg
284 1025          1030          1035          1040
286 Asp Val Cys Trp Ser Gln Arg Gly Glu Asp Gly Met Cys Ala Gly Pro
287          1045          1050          1055
289 Leu Ala Gly Pro Ala Leu Thr Phe Asp Asp Cys Cys Cys Arg Gln Gly
290          1060          1065          1070
292 Arg Gly Trp Gly Ala Gln Cys Arg Pro Cys Pro Pro Arg Gly Ala Gly
293          1075          1080          1085
295 Ser His Cys Pro Thr Ser Gln Ser Glu Ser Asn Ser Phe Trp Asp Thr
296          1090          1095          1100
298 Ser Pro Leu Leu Leu Gly Lys Pro Pro Arg Asp Glu Asp Ser Ser Glu
299 1105          1110          1115          1120
301 Glu Asp Ser Asp Glu Cys Arg Cys Val Ser Gly Arg Cys Val Pro Arg
302          1125          1130          1135
304 Pro Gly Gly Ala Val Cys Glu Cys Pro Gly Gly Phe Gln Leu Asp Ala
305          1140          1145          1150
307 Ser Arg Ala Arg Cys Val Asp Ile Asp Glu Cys Arg Glu Leu Asn Gln
308          1155          1160          1165
310 Arg Gly Leu Leu Cys Lys Ser Glu Arg Cys Val Asn Thr Ser Gly Ser
311          1170          1175          1180
313 Phe Arg Cys Val Cys Lys Ala Gly Phe Ala Arg Ser Arg Pro His Gly
314 1185          1190          1195          1200
316 Ala Cys Val Pro Gln Arg Arg Arg
317          1205

```

318 110 - SEQ ID NO:

319 111 - LENGTH: 3771

320 112 - TYPE: DNA

321 113 - ORGANISM: Homo sapiens

322 114 - SEQUENCE: 3

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323 cgggggggcag gggggggggg gggggtgggc cggagagcgt tcaaggtggg ctttgggcgg 60
324 cggatctgca agcggacctg tctcaaggcc cagtgtcagg acagtgtgca gcagggtccc 120
325 aacatgaagg tcatcggaga gaacggccac agcacagaca cgtcacggg ctcgggttc 180
326 cgggtgggtg tgtgcctct cccctggatg aatggcgccc agtgccttc gggaaaaccag 240
327 tgcctgtgtc cccggactt cactgggcgc ttctgccagg tggccgcagg aggagccgg 300
328 gggggtacg ggggtcagg cccgggctg agcaggacag gggccctgtc caaagggggg 360
329 ctgcggcccc tggctcggga gggcgactct gtggccagca agcacgccat ctacgcgtc 420

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09/763994 6

<210> 6
<211> 1257
<212> PRT
<213> Homo sapiens

<220>
<223> Xaa = any amino acid encoding codon or nonsense
codon

<400> 6

Xaa cannot represent
a nonsense codon -

it can only
represent an actual
amino acid

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/763,994

DATE: 07/11/2001

TIME: 11:05:30

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L:10 M:270 C: Current Application Number differs, Replaced Application Number

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:496 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:6

L:496 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:6

L:496 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6